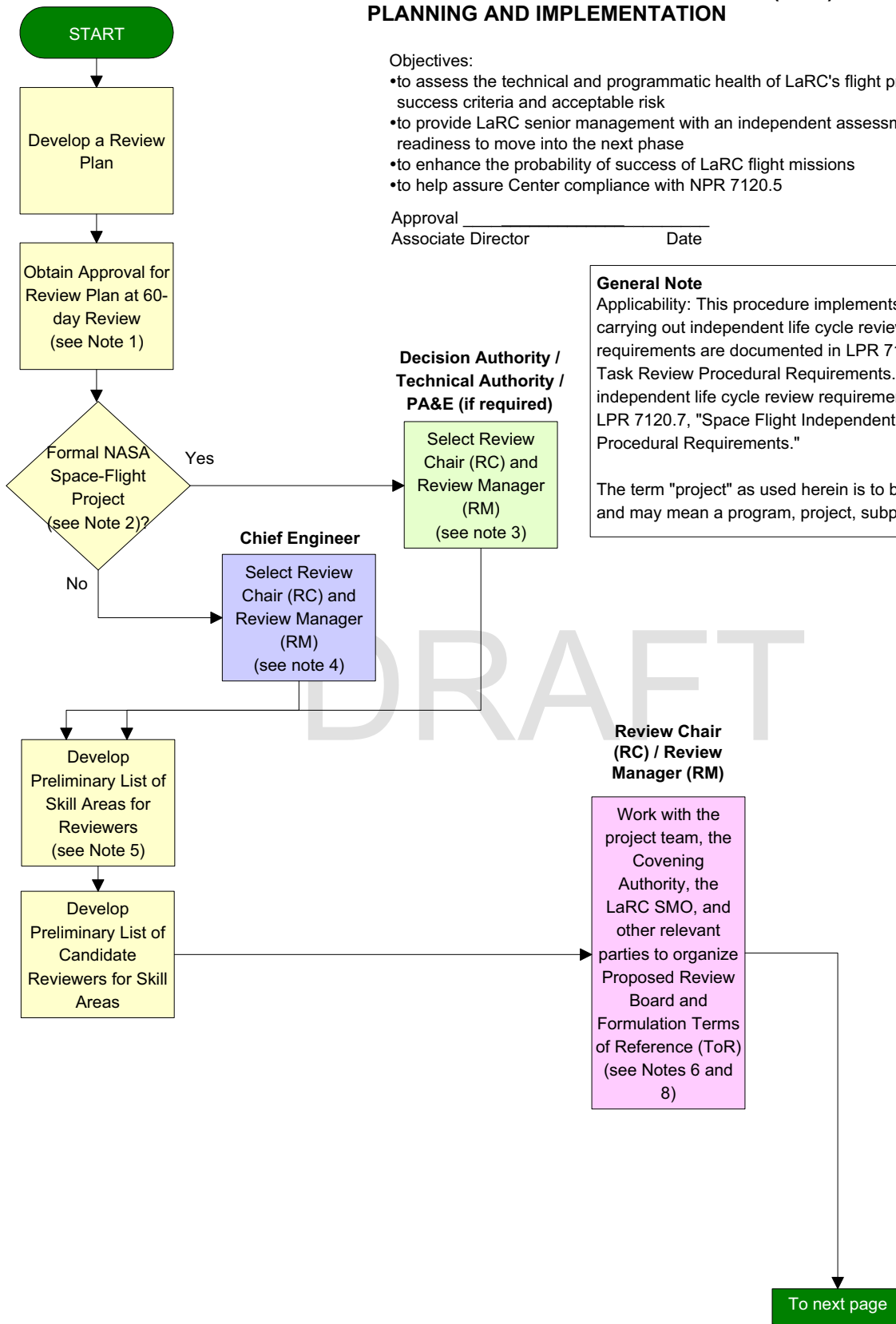
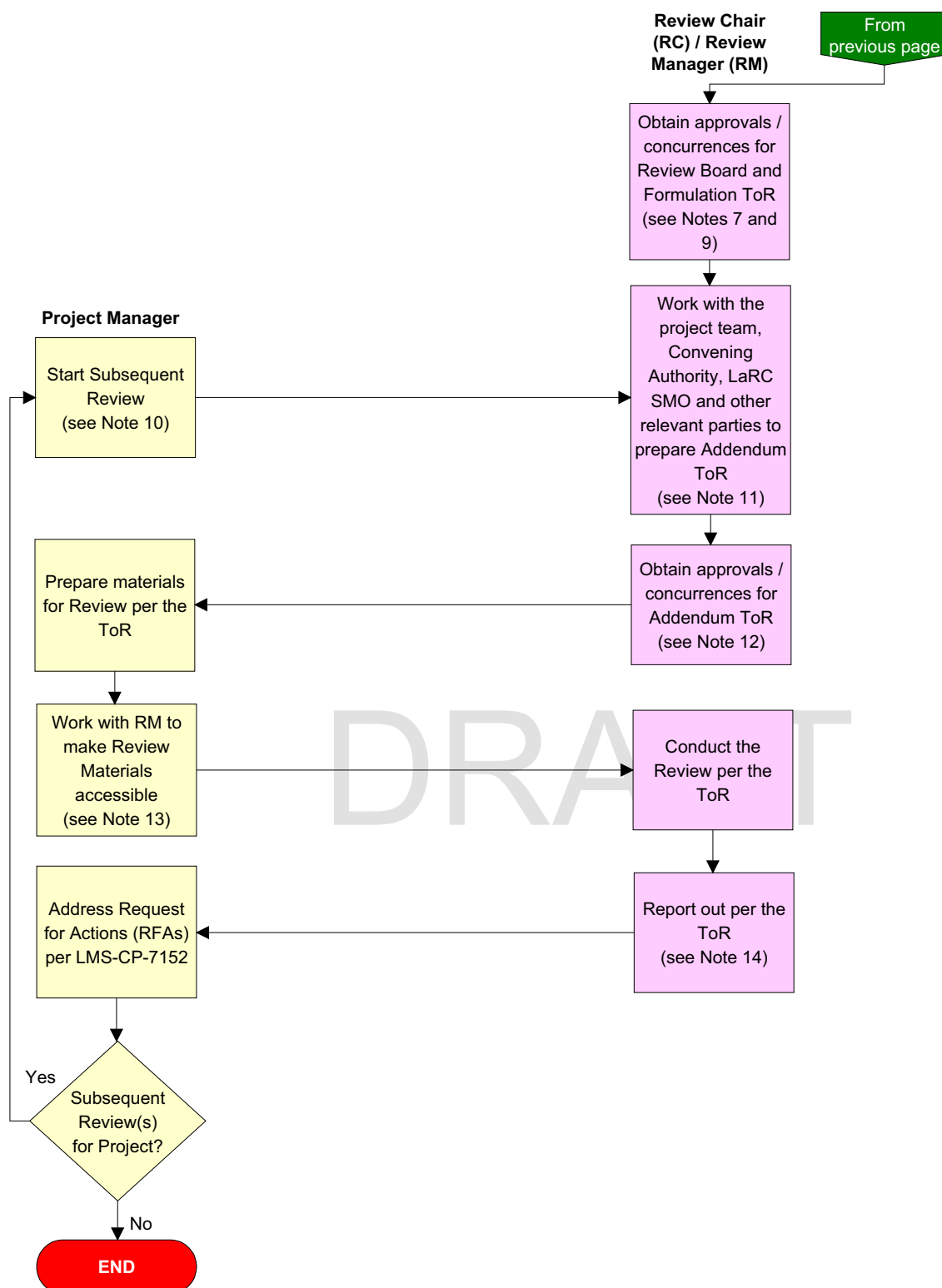


FLIGHT PROJECT CRITICAL MILESTONE REVIEW (CMR) PLANNING AND IMPLEMENTATION

Project Manager





General Information

The following records are generated by this procedure and are maintained in accordance with LMS-CP-2707:

- Project Plan
- Waivers (from review)
- Review Agenda
- Terms of Reference (TOR)
- Notification Letter
- Presentation Materials
- Reference Documents
- Request for Action (RFA)
- Minutes

Note 1

As discussed in LPR 7120.5, LPR 7120.6, and LPR 7120.7, projects and tasks are to present their review plan as part of the 60-Day Review. Approval of the review plan is subject to addressing any review-related actions stemming from the 60-Day Review.

Note 2

Formal NASA space-flight projects are subject to NPR 7120.5. These projects are listed in the agency MetaDataManager (Mdm) database. For consistency with the intent of NPR 7120.5, a space flight program or project involves orbital, lunar, or interplanetary spacecraft and their associated ground systems. It does not include suborbital vehicles and payloads.

Note 3

For formal NASA space-flight projects see LPR 7120.7, section 4, NPR 7120.5, section 2.5, and the *NASA Standing Review Board Handbook*, sections 4.1.1 and 4.1.2 for details as to the selection and approval process for the RC and RM.

Note 4

For LaRC projects that are not formal NASA Programs or Projects, the RC and the RM are assigned by the LaRC Chief Engineer with approval from the Head of the LaRC Systems Management Office (SMO). For smaller LaRC projects a separate RM may not be assigned. In such cases, the RC is expected to handle the duties of both the RC and the RM.

Note 5

For LaRC projects, the Project Manager provides the Chairperson and RM with a preliminary list of skill areas desired for the Review Board and potential candidate Board Members that would fill those skill areas. Expertise in the area of Safety and Mission Assurance is required to be included in the listed skill areas.

Note 6

The RC, with support from the RM, considers the preliminary list of skill areas and potential Review Board candidates. The RC and RM work with the project team, the review Convening Authority (a.k.a. Decision Authority in NPR 7120.5), the LaRC SMO, and other relevant parties to organize a proposed review board. The RC and/or the RM consult with the NESC LaRC Chief Engineer to determine the appropriateness of the NESC LaRC Chief Engineer being on the Review Board.

Note 7

The RC submits the names of proposed board members for approval/concurrence to the same individuals who approved/concurred with his/her assignment (see notes 3 and 4).

Note 8

A formulation ToR is written once for the life-cycle of a project and includes all the independent life-cycle reviews to be performed by the review board. The formulation ToR is generally written simultaneously with the membership selection process.

The typical content of a formulation ToR includes:

- a. A short description of the project as it exists at the time of writing.
- b. A list of all independent life-cycle reviews the board is being stood up to review.
- c. A notional schedule for each life-cycle review.
- d. A list of the support assessments that will be required throughout the life-cycle of the program/project, e.g. Independent Cost Estimate, Independent Schedule Assessment, Human Rating Assessment, etc.
- e. Any special circumstances or risks that should be considered that could affect team size or makeup.
- f. A statement of cooperation, that between life-cycle reviews and prior to an addendum ToR being written for a specific review, that the project and the RC will work together for the appropriate notice and participation of internal reviews or subsystem reviews that are necessary and appropriate for the board to attend.

A template for a formulation ToR is included of Appendix F of the *NASA Standing Review Board Handbook* and also as Appendix A of LPR 7120.7. Assistance in developing the Formulation ToR is available from the LaRC SMO. The LaRC SMO is responsible for soliciting inputs regarding the ToR from the LaRC Chief Engineer and the Director of the LaRC Safety and Mission Assurance Office.

Note 9:

For formal NASA space flight projects, the following approvals and concurrences are required:

Review Manager (signs as submitter)
Review Chair (approves)
PA&E Associate Administrator (approves)
NASA AA (approves)
MDAA (approves)
NASA Chief Engineer (approves)
LaRC Center Director (approves)
LaRC Head, Systems Management Office (approves)
LaRC Head, Organizational Unit (concurs)
Project Manager (concurs)
Customer/Funders (concurs, as required by Head of SMO)

For other LaRC projects the following approvals and concurrences are required:

Review Manager (signs as submitter)
Review Chair (approves)
LaRC Director, Systems Management Office (approves)
LaRC Organizational Unit Managers (concurs)
Project Manager (concurs)
Customer/Funders (concurs, as required by Head of SMO)

Additional signatures may be required by the Head of SMO.

Note 10

Subsequent reviews for the same project using substantially the same board start here.

Note 11

An Addendum ToR is written for each specific independent life-cycle review and will be attached to the Formulation ToR for configuration control. The first addendum ToR may be developed and submitted along with the Formulation ToR.

The typical content of an Addendum ToR includes:

- a. A short description of the program/project as it exists at the time of writing (omitted if this addendum is being written simultaneously with the Formulation ToR). The purpose of this section for addendum ToRs is specifically to call out changes in budget and/or content that might affect the size or the makeup of the review board. This is most relevant when addendum ToRs are produced years after the baseline ToR was produced, and budget and content have changed.
- b. The specific entrance and exit/success criteria for that review.
- c. LaRC or Review Convening Authority review requests.
- d. Support assessments to be performed.
- e. A list of project deliverables (documents requested) and review board products (reports, e.g., oral and written)
- f. A schedule of events, including all reports and venues. A timetable of events anchored by a project controlled milestone event, e.g. conclusion of the internal reviews.

A template for an Addendum ToR is included as Appendix G of the *NASA Standing Review Board Handbook* and also as Appendix B of LPR 7120.7. Assistance in developing the Addendum ToR is available from the LaRC SMO. The LaRC SMO is responsible for soliciting inputs regarding the ToR from the LaRC Chief Engineer and the Director of the LaRC Safety and Mission Assurance Office.

Note 12

The same approvals/concurrences are required for the Addendum ToR as for the Formulation ToR (see Note 9).

Note 13

The project team and the RM work together to make review materials available. Preferably, the materials are made available electronically. In addition to making the review materials available to the review board, the RM shall invite the following individuals or their designees to the project reviews and provide them with access to the same information provided to other Review Board members:

- a. the NESC LaRC Chief Engineer (if not already on the Review Board)
- b. the Head of the responsible LaRC Organizational Unit
- c. the LaRC SMO Head
- d. the LaRC SMAO Director
- e. the LaRC Chief Engineer

The project team and the RM work together to ensure that appropriate safeguards are in place when Sensitive But Unclassified (SBU) information and/or Export Controlled information is included as part of the review.

Note 14: Detailed reporting requirements are provided in Section 4 of LPR 7120.7, and in section 6.5 of the *NASA Standing Review Board Handbook*.